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DR-963 March 1978



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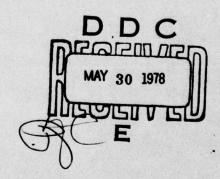
METEOROLOGICAL DATA REPORT

12831D LANCE
MISSILE NO. 3317, ROUND NO. 311 ESL
(24 FEBRUARY 1978)

BY

WSMR METEOROLOGICAL TEAM

DOC FILE COPY



ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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2. Meteorology 3. Wind	
APSTRACT (Continue on reverse alds If necessary and identify by block nu	nber)
Meteorological data gathered for the launc Missile Number 3317, Round Number 311 ESL, are	presented in tabular form.

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INTRODUCTION

12831D Lance, Missile Number 3317, Round Number 311 ESL, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1506 HRS MST, 24 February 1978. The scheduled launch time was 1500 HRS MST.

DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,977	FEET/MSL
PRESSURE	876.3	MBS
TEMPERATURE	18.3	°C
RELATIVE HUMIDITY	13	%
DEW POINT	-10.6	°C
DENSITY	1,044	GM/M ³
WIND SPEED	10	мрн
WIND DIRECTION	300	DEGREES
CLOUD COVER	2	Cu

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33, AT 1506 HRS MST/24 FEBRUARY 1978

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	1072	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	270	11.0		2100	270	16.0
100	268	8.5		2200	269	14.0
200	265	6.0		. 2300	266	13.5
300	273	5.5		2400	262	13.0
400	280	5.0	1013	2500	257	14.5
500	277	9.5		2600	252	16.0
600	273	13.5	13 0 0 0 1 60 0 0 0 7	2700	254	17.5
700	272	14.0	102798	2800	256	18.5
800	271	14.0		2900	253	16.5
900	275	15.0		3000	249	14.5
1000	278	16.0		3100	249	16.5
1100	277	18.5		3200	248	18.0
1200	275	21.0		3300	247	19.5
1300	273	21.5		3400	246	20.5
1400	271	21.5		3500	251	21.5
1500	275	22.5		3600	255	22.0
1600	278	23.0		3700	254	22.5
1700	280	22.0		3800	253	22.5
1800	281	21.0		3900	258	27.0
1900	276	19.5		4000	263	31.0
2000	271	17.5		4100	263	28.5

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM LC-33
AT 1450 HRS MST/24 FEBRUARY 1978
12831D LANCE, MISSILE NO. 3317, ROUND NO. 311 ESL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.3

APPROXIMATELY: 815 FEET SSE OF LAUNCHER.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	262	26.0
4300	262	25.5
4400	262	24.5
4500	264	23.5
4600	265	22.5
4700	269	22.0
4800	272	21.5
4900	273	21.0
5000	274	21.5
5100	277	20.5
5200	280	20.0
5300	279	20.0
5400	278	20.0
5500	280	19.0
5600	281	17.5
5700	287	17.5
5800	293	17.0
5900	286	17.0
6000	279	16.5
6100	278	16.5
6200	276	16.5
6300	278	15.5
6400	280	14.5
6500	285	15.0
6600	289	15.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6700	289	17.5
6800	289	20.0
6900	287	20.5
7000	284	20.5
7100	282	23.0
7200	279	25.5
7300	281	25.0
7400	282	24.5
7500	284	26.0
7600	286	27.0
7700	281	28.0
7800	275	29.0
7900	279	27.0
8000	282	24.5
8100	280	25.5
8200	277	26.0
8300	279	27.0
8400	281	27.5
8500	282	26.0
8600	282	24.5
8700	278	24.5
8800	273	24.0
8900	280	24.5
9000	287	24.5

TABLE II. (CONT)

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	300	10.0	2100	241	12.5
100	301	10.0	2200	243	11.5
200	302	9.5	2300	242	11.5
300	290	7.5	2400	241	11.0
400	277	5.5	2500	241	11.0
500	261	6.0	2600	240	11.0
600	245	6.5	2700	245	12.5
700	229	6.5	2800	250	14.0
. 800	213	6.0	2900	250	13.5
900	226	7.0	3000	249	13.0
1000	239	8.0	3100	248	12.5
1100	237	9.0	3200	247	12.0
1200	235	10.0	3300	246	11.5
1300	238	11.5	3400	244	10.5
1400	240	13.0	3500	238	10.0
1500	237	14.0	3600	232	9.0
1600	234	14.5	3700	234	8.0
1700	231	14.0	3800	235	7.0
1800	228	13.5	3900	239	7.5
1900	233	13.5	4000	242	7.5
2000	238	13.5	4100	249	8.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM LC-33 AT 1506 HRS MST/24 FEBRUARY 1978
12831D LANCE, MISSILE NO. 3317, ROUND NO. 311 ESL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.3

APPROXIMATELY: 815 FEET SSE OF LAUNCHER.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	255	8.0
4300	256	7.5
4400	257	6.5
4500	244	8.0
4600	231	9.0
4700	237	9.5
4800	243	10.0
4900	248	11.5
5000	253	12.5
5100	254	13.0
5200	254	13.5
5300	255	14.5
5400	255	15.0
5500	257	14.0
5600	258	13.0
5700	264	14.0
5800	269	15.0
5900	268	15.0
6000	266	14.5
6100	268	15.5
6200	270	16.5
6300	269	17.0
6400	268	17.0
6500	270	17.5
6600	272	18.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6700	272	18.5
6800	272	18.5
6900	274	18.0
7000	276	17.5
7100	278	19.0
7200	280	20.5
7300	281	19.5
7400	281	18.5
7500	284	19.0
7600	286	19.0
7700	286	22.0
7800	285	24.5
7900	290	23.5
8000	295 ·	22.0
8100	293	22.5
8200	290	22.5
8300	290	21.0
8400	290	19.5
8500	292	21.5
8600	293	23.0
8700	295	24.0
8800	297	24.5
8900	299	25.0
9000	300	25.0

TABLE III. (CONT)

STATION ALTITUDE 4051.00 FEET MSL 24 FEB. 78 1330 HRS MST ASCENSION NO.

SIGNIFICANT LEVEL DATA 0550030044 JALLEN

GEODETIC COORDINATES 33.16712 LAT DEG 106.49511 LON DEG

TABLE IV.

RFL . HUM. PERCENT 21.0 28.0 17.0 20.0 16.0 18.0 21.0 26.0 AIR DEWPOINT DEGREES CENTIGRANE -21.9 -30.3 -31.1 -8.2 -18.1 -10.9 TEMPERATURE -10.0 18.0 12.8 -20.1 9.04--43.3 -46.0 -46.3 PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET 5973.6 9469.2 10152.8 13873.8 27262.0 29837.6 30263.4 30767.9 31631.3 32496.6 12436.6 18647.9 23905.8 26059.2 718.4 500.0 400.0 363.6 641.0 605.8 865.7

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-49.8

-48.5

34243.1 35286.7 36210.0

1.81-

9.64-

36685.7 39034.9 45113.0 49225.1

-47.3

-61.8

-60.5

51644.2 57222.5

-61.6

STATION ALTITUDE 4051.00 FEET MSL 24 FEB. 78 1330 HRS MST ASCENSION NO. 44

SIGNIFICANT LEVEL DATA 0550030044 JALLEN TABLE IV. (CONT)

GEODETIC COORDINATES 33.16712 LAT nEG 106.49511 LON nEG

REL.HUM.	
TEMPERATURE	AIR DEWPOINT DEGREES CENTIGRANE
PRESSURE GEUMETRIC	ALTITUDE MSL FEET
PRESSURE	ALTITUDE AILLIBARS MSL FEET

L SOUR		LEMPERAIORE
	ALTITUDE	AIR DEWPOINT
LLIBARS		DEGREES CENTIGRA
50.0	67184.0	9-99-
48.5	67763.0	-67.9
46.3	68695.3	6.99-
44.2	69617.5	-63.3
38.2	72530.4	-64.8
30.0	77418.8	-57.6
20.0	85790.4	-55.8
17.9	88098.1	-54.1
10.6	99260.3	-45

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GEODETIC COORDINATES 33.16712 LAT NEG 106.49511 LON NEG UPPER AIR DATA 0550030044 JALLEN TABLE V. STATION ALTITUDE 4051.00 FEET MSL 24 FEB. 78 1330 HRS MST ASCENSION NO. 44

L	いりほ	MY	HILADE	rr co		
INDEX OF REFRACTION			.0002	.00024 .00020 .00020	1.000197 1.000195 1.000192 1.000188 1.000184	00017 00017 00016 00016 00016 00016
DATA J SPEED J KNOTS	7.3			· 1 86		001000000
WIND DA DIRECTION DEGREES(FN)	180.0 202.0 226.9	245.4 257.0 271.0 301.2				289.8 297.2 298.0 297.2 291.6 286.5 275.9
SPEED OF SOUND KNOTS		659.1 657.3 655.4	653.6 651.8 649.9	6446.0 6442.9 6411.2	634.3 637.8 636.2 634.7 633.2	000000000
DENSITY S GM/CUBIC METER	1035.3 1031.9 1020.3	994.	O IN + OLD		855.1 847.2 835.3 822.9 810.7 798.2	
REL . HUM. PERCENT	28.0 16.0 16.2	. 88 8	6666		23.7. 23.7.5 23.7.5 19.9	0.000000000000000000000000000000000000
PERATURE DEWPOINT CENTIGRADE	1.6	110.9		119.1	220 220 220 220 220 20 20 20 20 20 20 20	130.5 130.7 131.0 131.0 132.8 143.6
TEMPEI AIR DEGREES CI	20.8 17.6 15.7	14.2 12.7 11.2 9.6	000 d	N	-5.3 -7.9 -10.2	112.1 112.1 113.3 116.8 118.2
PRESSURE MILLIBARS	876.2 862.4 847.1	831.9 817.0 802.0 787.3	772-8 758-6 744-7 731-0	717.6 704.1 690.7 677.5	651.9 639.4 627.0 614.8	590.9 579.3 567.8 567.8 545.7 523.8 513.3
GEOMETRIC ALTITUDE MSL FEET	4051.0 4500.0 5000.0	5500.0 6000.0 6500.0 7000.0	7500.0 8000.0 8500.0	9500.0 10000.6 10500.0 11000.0	12000.0 12500.0 12500.0 13500.0 14000.0	14500.0 15000.0 15500.0 16000.0 17000.0 17500.0

STATION ALTITUDE 4051.00 FEET MSL.
24 FEB. 78 1330 HRS MST
ASCENSION NO. 44

UPPER AIR DATA 0550030044 JALLEN TABLE V, (CONT)

GEODETIC COORDINATES 33.16712 LAT NEG 106.49511 LON NEG

INDEX OF REFRACTION	1.000093 1.000153 1.0001146 1.000137 1.000137 1.000137 1.000113 1.0001115 1.0001115 1.0001116 1.0001117 1.0001118	
TA SPEED KNOTS	15000000000000000000000000000000000000	
WIND DATA DIRECTION S DEGREES(TN) K	2569 2569	
SPEED OF SOUND KNOTS	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
DENSITY GM/CUBIC METER	00000000000000000000000000000000000000	
REL.HUM. PERCENT	220 220 220 230 230 230 230 230 230 24 250 250 250 250 250 250 250 250 250 250	
RATURE DEWPOINT ENTIGRADE	0.100000000000000000000000000000000000	
TEMPER AIR DEGREES CI	10000000000000000000000000000000000000	
PRESSURE M1LL1BARS	28400 2840 2840 2840 2840 2840 2840 2840	
GEOMETRIC ALTITUDE MSL FEET	190000 200000 200000 2150000 22500000 22500000 22500000 22500000 22500000 22500000000	

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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GEODETIC COORDINATES 33.16712 LAT NEG 106.49511 LON NEG	PEED	KETKACI JON	1.00004	1.00004		1.00008	1.00007	40.9 1.000076	42.3 1.000075		42.4 1.000071		43.1 1.000068	-	1	-	-	1	-	57.9 1.000059	-	1.00005	56.8 1.000055	56.4 1.000054	7	56.3 1.000051	-	1.	8.3 1	59.3 1.000047	8.7
. 5	WIND DAT			•	273.2		272.8	272.9	273.0	273-1	273-1	272.6	271.7	270.8	569.9	269.0	268.3	267.8	267.4	267.0	266.8	266.6	266.4	267.1	267.9	268.8	269.8	270.5	270.5	270.5	ò
PER AIR DATA 0550030044 ALLEN LE V; (CONT)	Y SPEED OF			580	5.7	2 584.			14.9 582.4	327.3 582.3		582·		581.	5A0.					577.	577.	476.	575.	575	574.	231.1 573.3	572.	571	570.	12.7 569.2	Ø
UPPER A 05500 JALLEN TABLE V,	REL.HUM. DENSITY PERCENT GM/CUBIC	AE ER	7 7	~ ·	0 10	S FO	35	36	3	35	3.	3	3	50	55	56	26	.2	56	56	5	22	57	20	2.		22	25	21	21	
EET MSL S MST	SEMPOINT P	S CENTIGRADE																													
1330 HR		ă '	1 1	4 2 1		-48	-64-	-64-	1	-46	-64-	-64-	-5	-20	-51.	-51.	-52.	-52.	-55.	-53.	-55.	-54.	-54.	-55-	-55-	-5	-57.	-58.	-5	-29.	-60
9		MILLIBARS		2011-0		230.4		219.	214.	209.	205	200	195.	191.	186.	182.	178.	173.	169.	165.	161.	158.	154.	150.	147.	143.	140.	36.	133.6		
STATION ALTIT 24 FEB. 78 ASCENSION NO.	GEOMETRIC ALTITUDE	WAL FEET		35000	55500.0	36000.0	36500.0	37000.0	37500.0	38000.0	38500.0	39000 • 0	39500 • 0	0.0000	40500.0	4100000	41500.0	42000.0	42500.0	43000.0	0.0000	000	0.00544	5000	42200.0	000		2000	7500.	48000.0	48200.0

4051.00 FEET MSL	24 FEB. 78 1330 HRS MST	† †
STATION ALTITUDE	24 FEB. 78	ASCENSION NO.

UPPER AIR DATA 0550030044 JALLEN TABLE V. (CONT)

GEODETIC COORDINATES 33.16712 LAT DEG 106.49511 LON DEG

	,	51	#	5	Ñ	11	01	61	88	17	17	91	15	77	13	13	12	11	01	60	60	80	1	14	90	90	5	7	7	10	ň	
INDEX	REFRACTION	1.00004	1.00004	1.000043	1.000042	1.000041	1.000040	1.000039	1.000038	1.000037	1.000037	1.000036	•	1.000034	1.000033				1.000030		1.000029	1.000028	1.000027	1.000027	1.000026			1.000024	1.000024	1.00002	1.00002	
TA	KNOTS	57.8	26.7	55.5	54.3	53.1	•	51.2	50.6	50.1	6.64	49.7	48.8	47.5	46.2	45.0	43.9	45.6	41.2	39.6	33.6	27.7	24.4	23.0	21.8	N	22.4	21.9	20.8	19.7		
WIND DATA	DEGREES (TN)	269.5	268.7	267.5	266:2	265.4	264.5	264.0	263.7	263.3	261.5	259.8	258.9	258.6	258•3	259.6	261.0	262.2	263.4	264:7	266.0	268.0	269.0	269.0	269.0	269.0	269.0	269.0	269.0	269.0	-	
SPFED OF SOUND	KNOTS	567.1	566.8	567.1	567.4	567.7	568.0	8.79	567.3				565.0		563.7			561.8	562.4	563.9	563.5	563.0	562.5	562.0	561.5	561.4	561.3	561.2	561.0	560.9	560.8	
DENSITY S	METER	204.1	199.4	194.3	189.4	184.6	179.9		171.7	167.8	164.0	160.3	156.7	153.2	149.8	146.4	143.1	139.9	136.2	132.1	129.0	126.0	123.1	120.3	117.5	114.6	111.8	109.1		103.8	-	
REL . HUM. PERCENT																										٠						
	CENTIGRADE																						•	,								
TEMPE	DEGREES	-61.2	•	-61.2	•	-60.8	•	•	-61.1	-61.5	•		•	-63.3	•	-64.3	-64.7	-65.2	-64.8	-63.6	0.49-	-64.3	-64.7	-65.0	-65.4	-65.5	-65.6	-65.7	-65.8	-65.8	-62.9	
	MILLIBARS	124.2																														
GEOMETRIC ALTITUDE	MSL FEET	0.00064												-		56000.0											-	-	-	-	-	

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	DI	_)	1	1	1		7	L	5		-	•		Ĭ		-	_••														
DETIC COORDINATES 33.16712 LAT NEG 106.49511 LON NEG	INDEX OF REFRACTION	1.000022	1.000021		1.000020	1.000020	1.000019	1.000019	1.000019	1.000018		1.000017	.00001	-	.0000	.0000	_	-	_	_	-	-	1.000013	1.000012	1.000012	-	.0000	_	1.000011	1.000010	1.000010
GEODETIC 33.1 106.4	DATA SPEED J KNOTS	18.7	17.7	15.8	14.2	13.3	12.8	•	•	10.0	8.7	9.1		10.9	-	0	0	0	9.5	9.5	9.3	9.6	9.8	8.6	6.6			10.7		11.6	ò
76.36.6	WIND DA DIRECTION DEGREES(IN)	277.0	281.7	287.9	295.6	297.8	296.5	294.5	293.9	293.7	293.4	298.0	303.1	307.3	305.2	301.9	298.5	290.7	281.1	270.6	273.3	276.8	280 • 1	283.6	287.1	290.5	289.9	289.3	288.7	287.8	86
DATA 1044 (CONT)	SPFED OF SOUND KNOTS	560.7	560	560.		560.	560.		559.		559.				563.			562.	562.	563	564.	565	566.	567.2	568.		570.	571.	572.0	N	572.3
UPPER AIR DATA 0550030044 JALLEN (CONT)	DENSITY GM/CUBIC METER	98.8	96.3	0.46	91.7	4.68	87.2	85.1	83.3	81.3	79.1	76.6	74.0	72.1	70.4	68.7	67.1	65.5	0.49	62.2	60.5	58.8	57.1	55.6	54.0	52.5	51.1	9.64	8	47.1	•
U AT	REL . HUM. PERCENT																									10 H. 12 H. 1					
IT MSL MST	ERATURE DEWPOINT CENTIGRADE																														
A S E	TEMPER AIR D DEGREES CE	0.99-		-66.2	-66.3	4.99-	-66.5			-67.7	-67.1	-65.7	-63.8	-63.5	-63.8			-64.5	8.49-	-64.1	-63.4	-62.6	-61.9	-61.2	4.09-	-59.7	-59.0	-58.2	•	-57.5	
ALTITUDE 4051.00 78 1330 P	PRESSURE MILLIBARS	58.7	57.3	55.8	24.4	53.1	51.8	50.5			46.8			43.4	. 45.3	41.2	40.2	39.5	38.3	37.3	36.4		34.7	3	3	3	:	•	6	29.5	8
STATION ALTIT 24 FEB. 78 ASCENSION NO.	GEOMETRIC ALTITUDE MSL FEET	0.00049	-	00	-	.00099		-	67500.0	68000.0	68500 • 0	0.00069	-	70000	70500.0	71000.0	71500.0	72000.0	72500.0	73000.0	73500 • 0	74000·0	74500.0	75000.0	75500.0	76000.0		-	77500.0	78000.0	20

12

UPPER AIR DATA GEODETIC COORDINATES 5 MST TABLE V. (CONT) UPPER AIR DATA GEODETIC COORDINATES 33.16712 LAT DEG TABLE V. (CONT)	APERATURE REL.HUM. DENSITY SPFED OF WIND DATA INDEX DEWPOINT PERCENT GM/CUBIC SOUND DIRECTION SPEED OF S CENTIGRADE METER KNOTS DEGREES(TN) KNOTS REFRACTION	44.8 572.4 286.2 12.8 1.000010 43.7 572.6 283.1 13.3 1.000010 42.7 572.7 280.2 13.8 1.000009 41.6 572.8 277.5 14.4 1.000009	39.6 573.1 273.0 14.3 1 38.7 573.4 270.7 14.3 1 37.7 573.4 270.3 14.9 1 36.8 573.6 270.3 15.6 1 35.0 573.7	35.0 573.8 267.9 18.5 1 34.2 574.0 265.1 21.5 1 33.3 574.1 263.0 24.6 1 32.5 574.3 261.8 27.0 1 31.7 574.6 261.0 28.7 1	0.9 x75.0 260.4 30.5 1 0.1 x75.5 260.8 31.5 1 9.4 576.0 262.9 31.4 1 8.6 576.5 264.9 31.4 1 7.2 577.6 266.8 31.4 1	
4051.00 FEET 1330 HRS MS	TEMPE AIR DEGREES C	-57.3 -57.2 -57.0 -56.9	-56.7 -56.6 -56.5 -56.5	55666	534.	-52.0 -52.5 -52.1 -51.7 -50.9
ALTITUDE 405 78 1 1N NO. 44	PRESSURE MILLIBARS				118.9 118.9 119.0 119.0	
STATION ALT 24 FEB. 78 ASCENSION N	GEOMETRIC ALTITUDE MSL FEET P	79000-U 79500-0 80000-0 80560-0		84500.0 84500.0 85000.0 85500.0		90500.0 90500.0 91000.0 91500.0

STATION ALTIT 24 FEB. 78 ASCENSION NO.	STATION ALTITUDE 4051.00 FEET MSL 24 FEB. 78 1330 HRS MST ASCENSION NO. 44	51.00 FEE 1330 HRS	ET MSL MST	L	UPPER AIR DATA 0550030044 JALLEN TABLE V. (CONT)	DATA 044 (CONT)		GEODETI 33. 106.	GEODETIC COORDINATES 33.16712 LAT DEG 106.49511 LON DEG
GEOMETRIC ALTITUDE MSL FEET	PRESSURE TEMF AIR MILLIBARS DEGREES	TEMF AIR DEGREES	TEMPERATURE R DEWPOINT EES CENTIGRADE	REL . HUM. PERCENT	REL.HUM. DENSITY SPFFD OF PERCENT GM/CUBIC SOUND METER KNOTS	SPFED OF SOUND KNOTS	WIND DATA DIRECTION SI DEGREES(IN) KI	SPEED KNOTS	INDEX OF REFRACTION
0.000%6	13.6	-49.3			21.1	582.9	270.0	45.5	1.000005
94500.0	13.3	6.84-			20.6		270.0	42.9	1.000005
95000.0	12.9	-48.5			20.1	583.9	270.0	41.6	1.000004
95500 • 0	15.6	-48.1			19.6		270.0	45.0	1.000004
9600000	15.4	1-47-7			19.1		270.0	48.5	1.000004
96500.0	15.1	-47.3			18.6	585.5	270.0	51.9	1.000004
97000.0	11.8	-46.8			18.1	586.1			1.000004
97500.0	11.5	h-9h-			17.7				1.000004
98000.0	11.2	0.94-			17.2				1.000004
98500.0		-45.6			16.8	1 5A7.6			1.000004
0.00066		-45.2			16.4				1.000004

BEST AVAILABLE COPY

S	
LEVFLS 044	
0	Z.T.
DATORY LEV 0550030044	JALLEN TABLE V
MANDATORY 055003	34

GEODETIC COORDINATES 33.16712 LAT DEG 106.49511 LON DEG

40 DATA		7.7	9.9	10.8	17.9	23.0	22.3	15.2	20.0	29.3	34.3	37.6	46.4	40.2	42.7	54.2	56.3	57.6	8.64	37.7	22.0	18.7	11.0	10.0	11.6		30.3	45.6
	0	222.6	274.5	312.9	297.9	283.7	288.8	298.5	273.5	256.2	258.0	259.1	270.7	272.9	272.3	267.8	267.6	569.4	261.0	265.0	269.0	276.5	293.9	289.3	287.8	271.8	260.5	270.0
RFL . HUM. PERCENT		16.	19.	20.	21.	27.	17.	20.	26.	31.	36.	10.**																
TEMPERATURE R DEWPOINT	CENTIGRADE	8.6-	-12.1	-15.6	-19.7	-21.5	-30.4	-31.2	-34.6	-39.5	8.44-	-61.4																
AI	DEGREES	16.0	10.9	5.5	•	-5.5	-10.3	-13.3	-20.1	-27.2	-35.1	-45.5	-45.6	-47.3	8.64-	-52.3	-55.2	-61.0	-61.8	-63.9	-65.4	-62.9	9.99-	-64.3	-57.6	-56.8	-55.8	-51.0
OPOTENTIA	FEET	.4064	6576.	8323.	10153.	12080.	14120.	16307.	18657.	21183.	23923.	26929.	30314.	34285.	39091.	41941.	45191.	48959.	53506.	57996.	. 42909	63748.	67372.	71830.	77674.	81458.	o	92181.
PRESSURE GEOPOTENTIAL	MILLIBARS	850.0	800.0	750.0	700.0	650.0	0.009	550.0	200.0	450.0	400.0	350.0	300.0	250.0	200.0	175.0	150.0	125.0	100.0	80.0	70.0	0.09	20.0	0.04	30.0	25.0	20.0	15.0

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS UCED IN THE INTERPOLATION.

АТА	RFL.
SIGNIFICANT LEVEL DATA 0550020133 WHITE SANDS TABLE VII.	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRAÑE
STATION ALTITUDE 3989.00 FEET MSL 24 FEB. 78 1450 HRS MST ASCENSION NO. 133	PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET

ŕ	
RFL . HUM . PERCENT	21.0
RATURE DEWPOINT CENTIGRANE	-2.3
TEMPE AIR DEGREES	20.8
GEOMETRIC ALTITUDE MSL FEET	3989.0
PRESSURE MILLIBARS	876.3
	PRESSURE GEOMETRIC TEMPERATURE RFL. HUM. ALTITUDE AIR DEWPOINT PFRCENT TO MILLIBARS MSL FEET DEGREES CENTIGRAPE

PRESSURE	OMET	=	TURE .	RFL . HUM
ILLIBARS	FEE	DEGREES CEN	CENTIGRAPE	Z Z
76.3	3989.0	20.8	-2.3	-
8.99		8	•	9
20.0		16.5	-2.5	
200.0	10120.8	1.4	-10.1	42.0
47.8		1.1-		8
8.06		-11.3	•	6
57.8				6
26.3		-18.2	-18.3	6
18.8		•	•	
0.00				6
68.8				
0.00		•	•	6
81.3	-			6
20.8			-50.2	
0.00				
83.8				
20.0	-			
19.3				
0.00				
20.0	45175.4	-54.0		
19.3		3		
12.3		3		
08.3		-		
0.00	•	-62.1		
0.0		+.99-		
0.3		-68.3		
0.0				
6.3		-61.9		
6.3		-62.4		
0.0	•	-57.6		

3989.00 FEET MSL	1450 HRS MST	2
P		-
STATION	24 FEB. 78	ASCENSIO

SIGNIFICANT LEVEL DATA 0550020133 WHITE SANDS

TABLE VII. (CONT)

GEODETIC COORDINATES 32.40043 LAT NEG 106.37033 LON NEG

RFL. HUM. PERCENT TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET

-53.3

85928.7 92282.1

20.0

17

STATION ALTITUDE 3989.00 FEET MSL 24 FEB. 78 1450 HRS MST ASCENSION NO. 133	EE1 MSL	S MST	
ALTITUDE 78 ON NO.	3989.00 F	1450 HR	133
	ALTITUDE	78	ON NO

UPPER AIR DATA 0550020133 WHITE SANDS TABLE VIII.

TES	DEG	nE6
COORDINATES	32.40043 LAT DEG	106-37033 LON F
5000	1043	7033
TIC	2.40	6.37
GEODETIC	(P)	10

INDEX OF REFRACTION		.00014
SPEED KNOTS	0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
WIND DATA DIRECTION SP DEGREES(IN) KN	250 250 250 250 250 250 250 250 250 250	258.6
SPFED OF SOUND KNOTS	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
DENSITY GM/CUBIC METER	10000000000000000000000000000000000000	708.3
REL . HUM. PERCENT	20000000000000000000000000000000000000	39.1
ERATURE DEWPOINT CENTIGRADE	0 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
TEMPE AIR DEGREES	00/02/00/00/00/00/00/00/00/00/00/00/00/0	:
PRESSURE MILLIBARS	88460 88460 88460 7789 7789 7789 7789 7789 7789 7789 778	15.
GEOMETRIC ALTITUDE MSL FEET	\$989 \$100000 \$100000 \$100000 \$100000 \$100000 \$100000 \$10000 \$1	18000-0

	an de	UPPER AIR DATA	ATA		
STATION ALTITUDE 3989.00 FEET MSL		0550020133	3	GEODE	TIC COORDINATES
24 FEB. 78 1450 HRS MST	3	WHITE SANDS	. 5		32.40043 LAT NEG
ASCENSION NO. 133	T/	TABLE VIII. (CONT)	CONT)	10	106.37033 LON DEG
	į				

LITTUDE LITTUDE AIR DEWPOINT PERCENT GM/CUBIC SOUND DIRE LB500.0 502.2 -21.5 -31.7 39.1 695.0 618.1 2 L9500.0 491.9 -22.3 -32.3 39.5 642.9 617.1 2 L9500.0 491.9 -22.3 -32.3 39.5 642.9 617.1 2 L9500.0 471.8 -24.0 -33.8 39.9 648.8 613.5 2 L9500.0 442.0 -25.2 -34.8 39.9 648.8 613.5 2 L9500.0 442.0 -25.2 -34.8 39.9 648.8 613.5 2 L9500.0 442.0 -27.7 -37.2 39.8 648.8 613.5 2 L9500.0 442.1 -40.8 39.1 608.9 648.8 613.5 2 L9500.0 442.1 -40.8 39.1 608.8 613.5 2 L9500.0 442.1 -40.8 39.1 608.8 613.5 2 L9500.0 397.8 -40.9 39.0 598.5 602.4 2 L9500.0 380.8 -35.9 -44.9 39.0 559.1 600.0 2 L9500.0 340.7 -40.9 38.5 559.1 600.0 2 L9500.0 340.7 -40.9 38.5 559.1 600.0 2 L9500.0 340.7 -40.4 -49.1 38.2 568.2 599.1 2 L9500.0 340.7 -42.2 -52.5 521.4** 469.8 592.1 2 L9500.0 311.5 -42.2 -55.5 21.4** 469.8 592.1 2 L9500.0 311.5 -42.2 -55.5 21.4** 469.8 592.1 2 L9500.0 311.5 -42.2 -55.5 21.4** 469.8 582.1 2 L9500.0 311.5 -42.2 -55.5 21.4** 469.8 582.1 2 L9500.0 297.0 -44.7 -51.3 34.2** 469.8 582.1 2 L9500.0 297.0 -44.7 -51.3 34.2** 469.8 582.1 2 L9500.0 297.0 -44.7 -51.3 34.2** 469.8 582.1 2 L9500.0 297.0 -44.7 -49.1 49.1 58.5 584.4 587.8 586.5 584.4 587.1	3	SEOMETRIC	PRESSURE	TEMP	ERATURE	REL . HUM.	DENSITY	SPEED OF	WIND DATA	TA	INDEX
1850 0. 502.2 -21.5 -31.7 39.1 695.0 618.1 255.1 28.5 1.0001 1950 0. 491.9 -22.3 -32.3 39.3 662.9 617.1 255.8 27.8 1.0001 2000 0. 471.8 -24.0 -33.8 39.9 648.6 613.5 252.2 30.6 1.0001 2000 0. 471.8 -24.0 -34.8 39.9 648.6 613.5 252.2 30.6 1.0001 2150 0. 452.1 -26.5 -36.5 -36.6 39.9 648.6 613.5 252.2 30.6 1.0001 2150 0. 452.1 -26.5 -36.5 -36.6 39.9 648.6 610.0 252.2 30.6 1.0001 2250 0. 425.1 -36.7 -40.8 39.5 618.2 610.2 252.2 30.6 1.0001 2500 0. 425.1 -26.7 39.6 469.6 610.2 252.2 30.6 1.0001	42	LTITUDE SL FEET	MILLIBARS	AIR				SOUND	DIRECTION DEGREES(TN)	SPEED	OF REFRACTION
195000 491.9 -22.3 -32.3 39.3 682.9 671.1 616.1 255.8 27.8 1.0001 20000 471.8 -24.6 -33.0 39.6 671.1 616.1 250.9 26.4 1.0001 20500 462.0 -25.2 -36.0 39.9 648.8 613.5 252.2 30.6 1.0001 25000 462.0 -27.2 -36.0 39.8 648.8 613.5 252.2 30.6 1.0001 25000 442.6 -27.0 -39.8 39.9 648.8 613.5 252.2 30.6 1.0001 25000 424.1 -30.8 -39.9 648.8 610.2 252.2 35.3 1.0001 25000 424.1 -30.8 -40.9 59.8 608.2 60.2 55.2 35.9 1.0001 25000 415.4 -30.8 -40.9 59.8 60.8 61.2 55.2 35.9 1.0001 2500 44.0 <t< th=""><th></th><th></th><th></th><th>-</th><th>-</th><th>39.1</th><th></th><th>0</th><th></th><th>ထ</th><th>00015</th></t<>				-	-	39.1		0		ထ	00015
19500-0 481-8 -23.2 -33.0 39.6 671.1 f.fe.1 250.9 26.4 1.0001 20500-0 462.0 -23.2 -33.8 39.9 648.8 f.fl.10 250.2 30.5 1.0001 21000-0 452.0 -26.5 -36.0 39.8 648.8 f.fl.0 252.2 30.5 1.0001 22000-0 452.0 -26.5 -36.0 39.8 638.4 f.fl.0 252.2 30.5 1.0001 22000-0 424.1 -30.3 -39.6 39.4 618.2 f.fl.0 252.2 35.9 1.0001 22000-0 424.1 -39.6 39.4 608.3 607.2 252.2 36.2 1.0001 22500-0 426.6 -32.8 -40.8 39.1 608.3 607.2 252.2 36.2 1.0001 25000-0 436.2 -40.8 39.1 599.2 601.2 252.2 36.2 1.0001 25000-0 380.2 -40.8		19000-0	491.	3	N	39.3		617.1		~	.00015
200000 471.8 -22.0 -33.8 39.9 659.6 615.0 251.7 28.5 1.0000 200000 452.2 -22.0 -34.8 39.9 648.8 615.0 252.2 30.5 1.0000 205000 442.6 -25.7 -37.2 39.6 628.2 610.4 252.3 35.9 1.0000 205000 442.6 -27.7 -39.6 628.2 610.4 252.3 35.9 1.0000 20000 424.1 -30.3 -39.6 628.2 610.4 252.3 35.9 1.0000 20000 424.1 -30.3 -39.2 628.6 60.5 252.1 35.9 1.0000 20000 424.1 -30.3 -39.2 598.6 60.5 252.1 35.0 1.0000 20000 397.8 -34.0 44.0 39.0 599.1 60.5 252.1 35.0 1.0000 20000 397.8 -34.0 44.0 39.0 599.1		19500.0	481.	3	3	39.6		616.1		0	
250000 462.0 -25.2 -34.8 39.9 648.8 к13.5 252.2 30.6 1.0001 250000 442.6 -27.7 -37.2 39.8 648.8 к13.5 252.2 30.5 1.0001 250000 433.3 -29.0 -38.4 39.5 618.2 60.8 252.2 35.0 1.0001 250000 421.1 -30.3 -39.6 59.4 60.8 6.8 55.2 35.0 1.0001 250000 45.4 -32.8 -42.0 39.1 60.6 252.2 35.0 1.0001 25000 415.2 -42.0 39.1 58.1 60.6 255.2 35.0 1.0001 25000 39.2 -42.0 39.0 59.0 59.1 60.2 255.2 35.0 1.0001 25000 39.2 -42.0 39.0 59.2 56.2 25.2 35.0 1.0001 25000 39.2 -42.0 39.0 59.2 58.2 <th></th> <th>2000000</th> <th>471.</th> <th>54.</th> <th>-33.8</th> <th>39.9</th> <th></th> <th></th> <th></th> <th>Ø</th> <th>.0001</th>		2000000	471.	54.	-33.8	39.9				Ø	.0001
250000 422.2 -26.5 -36.0 39.8 638.4 612.0 252.3 32.3 1.0001 250000 442.6 -27.7 -37.2 39.6 628.2 610.4 252.3 33.9 1.0001 250000 424.1 -30.3 -39.6 39.4 608.3 607.2 252.2 35.9 1.0001 250000 424.1 -30.3 -39.6 39.4 608.3 607.2 252.2 35.9 1.0001 250000 416.4 -31.6 -40.8 39.2 596.6 605.6 254.2 37.8 1.0001 250000 397.8 59.0 569.2 601.2 260.9 41.4 1.0001 250000 397.8 569.2 601.2 260.9 41.4 1.0001 250000 372.4 -44.9 39.0 569.2 601.2 260.9 41.4 1.0001 250000 370.4 -44.9 39.0 569.2 601.2 260.9 41.4 <th></th> <th>20500.0</th> <th>462.</th> <th>25.</th> <th>-34.8</th> <th>39.9</th> <th></th> <th></th> <th></th> <th>0</th> <th>.0001</th>		20500.0	462.	25.	-34.8	39.9				0	.0001
25500.0 442.6 -27.7 -37.2 33.6 628.2 610.4 252.3 33.9 1.0001 225000.0 442.4 -39.6 49.5 598.6 618.2 618.2 552.2 35.0 1.0001 22500.0 415.2 -31.6 -40.8 39.2 598.6 605.6 252.2 35.0 1.0001 23500.0 415.2 -31.6 -40.8 39.2 598.6 605.6 252.2 35.0 1.0001 24000.0 397.8 -39.0 59.0 598.6 605.6 256.2 37.8 1.0001 25000.0 380.2 -35.0 -44.9 39.0 569.2 601.2 258.6 1.0001 25000.0 380.8 -35.0 569.2 601.2 256.9 43.6 1.0001 25000.0 360.8 -35.0 569.2 601.2 260.9 43.6 1.0001 25000.0 360.8 -35.0 569.2 601.2 260.9 43.6		21000.0	452.	26.	-36.0	39.8				N	.000
220000 433.3 -29.0 -38.4 39.5 618.2 618.2 618.2 552.2 35.0 1.0001 225000 424.1 -30.3 -39.4 608.3 607.2 252.2 35.2 1.0001 225000 406.4 -32.8 -42.0 39.1 589.1 604.0 258.2 37.8 1.0001 245000 406.4 -32.8 -44.0 39.0 589.1 604.0 258.5 141.4 1.0001 245000 389.2 -35.0 -44.0 39.0 569.1 60.5 43.4 1.0001 25000 372.4 -36.7 -45.6 38.9 589.1 569.1 269.9 41.4 1.0001 25000 372.4 -46.3 38.7 538.1 599.1 269.1 46.0 1.0001 2600 372.4 -46.3 38.7 538.1 599.1 269.1 46.0 1.0001 2600 372.4 47.7 38.5 58.4		21500.0	442.	-27.7	-37.2	39.6		610.		m	.000
225000 424.1 -30.3 -39.6 39.4 608.3 607.2 252.2 36.2 10000 230000 415.2 -31.6 -40.8 39.2 598.6 605.6 254.2 37.8 10000 240000 397.8 -34.0 -44.0 39.0 559.1 601.2 258.6 37.4 1.0001 245000 389.2 -35.0 -44.0 39.0 559.1 601.2 260.9 43.6 1.0001 25500.0 389.2 -35.9 -44.0 39.0 559.1 601.0 262.1 46.0 1.0001 25500.0 389.2 -35.9 -44.0 39.0 559.1 601.0 262.1 41.4 1.0001 25000.0 364.2 -36.7 -46.3 38.7 59.1 507.2 265.9 43.6 1.0001 25000.0 356.2 -38.9 598.5 596.4 265.9 56.1 1.0001 25000.0 359.0 -47.0 38.5		22000-0	433.	-29.0	-38.4	39.5		608		S	.0001
230000 415.2 -31.6 -40.8 39.2 598.6 405.6 254.2 37.8 1.0001 240000 406.4 -32.8 -42.0 39.1 589.1 604.0 256.0 39.4 1.0001 245000 389.2 -35.0 -44.0 39.0 569.5 601.2 260.9 43.6 1.0001 25500.0 389.2 -35.9 -44.9 39.0 569.2 601.2 260.9 43.6 1.0001 25500.0 360.8 -35.9 -44.9 39.0 569.2 601.2 260.9 43.6 1.0001 25500.0 372.4 -45.7 -45.6 58.9 599.1 262.1 46.0 1.0001 25500.0 356.2 -38.1 -47.7 38.5 518.0 56.2 269.2 60.7 1.0001 2500.0 340.2 -47.7 38.5 518.0 56.2 56.2 56.2 56.2 56.2 56.2 56.2 56.2 56.2		22500.0	454.	-30.3		39.4		607		O	.0001
23500.0 406.4 -32.8 -42.0 39.1 589.1 604.0 256.0 39.4 1.0001 24000.0 397.8 -32.8 -42.0 39.0 579.5 602.4 258.5 41.4 1.0001 25000.0 380.8 -35.9 -44.0 39.0 559.1 600.0 262.1 46.0 1.0001 25000.0 380.8 -35.9 -44.0 38.7 598.2 260.9 43.6 1.0001 25000.0 372.4 -36.7 -46.3 38.7 538.1 598.2 260.9 44.5 1.0001 25000.0 340.2 -37.4 -46.3 38.5 527.9 269.2 269.2 269.2 269.2 1.0001 25000.0 340.7 -39.6 -49.1 38.5 598.4 278.4 278.8 56.5 1.0001 25000.0 340.7 -40.4 49.1 38.2 44.4 489.1 278.4 278.4 1.0001 25500.0 <t< th=""><th></th><th>23000-0</th><th>415.</th><th>31.</th><th></th><th>39.5</th><th></th><th>605</th><th></th><th>-</th><th>.0001</th></t<>		23000-0	415.	31.		39.5		605		-	.0001
240000 397.8 -34.0 -43.1 39.0 579.5 602.4 258.5 41.4 1.0001 245000 389.2 -35.0 -44.0 39.0 569.2 601.2 260.9 43.6 1.0001 255000 389.2 -35.7 -44.0 39.0 569.2 601.2 260.9 43.6 1.0001 255000 372.4 -35.7 -46.3 38.7 58.1 590.1 262.1 46.0 1.0001 26000 356.2 -38.1 -47.0 38.6 527.9 597.2 265.6 52.8 1.0001 26000 348.3 -38.5 518.0 596.3 265.6 52.8 1.0001 27500 348.3 -48.4 38.3 596.3 265.6 52.8 1.0001 28000 333.2 -40.4 -49.1 38.3 489.1 593.5 277.1 60.5 1.0001 28000 31.6 -42.2 -55.5 21.4** 460.2	19	23500.0	406.	32.	-42.0	39.1		604		σ	.0001
24500.0 389.2 -35.0 -44.0 39.0 569.2 601.2 260.9 43.6 1.0001 2500.0 360.8 -35.9 -44.9 39.0 559.1 600.0 262.1 46.0 1.0001 25500.0 37.4 -46.3 38.9 548.5 599.1 262.1 46.0 1.0001 2600.0 356.2 -36.1 -47.0 38.5 58.7 1.0001 2700.0 348.3 -38.9 -47.7 38.5 518.0 596.2 56.8 50.7 1.0001 2700.0 348.3 -38.5 518.0 596.3 269.2 55.5 1.0001 2700.0 340.7 -49.1 38.3 508.2 595.4 272.8 55.5 1.0001 2800.0 333.2 -40.4 40.4 38.3 596.4 275.1 60.5 1.0001 2900.0 316.7 -41.7 51.3 24.4 46.9 592.1 277.9 61.9 1.0001	9	24000	397.	34.	-43.1	39.0		602.		-	
250000 380.8 -35.9 -44.9 39.0 559.1 600.0 262.1 46.0 1.0001 25500.0 372.4 -46.3 38.9 548.5 599.1 263.1 48.5 1.0001 2600.0 356.2 -36.1 -47.0 38.6 527.9 569.2 264.4 50.7 1.0001 2600.0 346.2 -36.1 -47.7 38.5 518.0 596.3 269.2 55.8 1.0001 27500.0 340.7 -39.6 -48.4 38.3 508.2 569.4 272.8 55.5 1.0001 28000.0 333.2 -40.4 -49.1 38.3 508.4 272.8 58.7 1.0001 28000.0 325.9 -41.1 -49.8 38.1 469.1 592.7 277.1 61.9 1.0001 2900.0 311.5 -42.2 -52.5 21.4** 469.8 592.7 277.1 61.9 1.0001 3000.0 297.8 -42.6 8	B	24500	389.	35.	0.44-	39.0		601.	260.9	1	
25500.0 372.4 -36.7 -45.6 38.9 548.5 599.1 263.1 48.5 1.0001 26500.0 356.2 -38.1 -46.3 38.7 538.1 598.2 264.4 50.7 1.0001 26500.0 356.2 -38.9 -47.0 38.6 527.9 597.2 265.8 1.0001 27500.0 340.7 -39.6 -48.4 38.3 508.2 569.2 55.5 1.0001 27500.0 340.7 -39.6 -48.4 38.3 508.2 569.4 272.8 56.7 1.0001 28500.0 333.2 -40.4 -49.1 38.3 469.1 595.4 272.1 60.5 1.0001 28500.0 318.7 -41.7 -51.3 34.2*** 469.8 592.1 277.1 61.9 1.0001 29500.0 316.6 -62.9 8.6*** 469.8 592.1 277.3 61.9 1.0001 30500.0 291.6 -44.7 44.7	E	25000	. 380.	35.	6.44-	39.0		600	262.1	O	
26000.0 364.2 -37.4 -46.3 38.7 538.1 598.2 264.4 50.7 1.0001 26500.0 356.2 -38.1 -47.0 38.6 527.9 597.2 265.8 52.8 1.0001 27000.0 348.3 -39.6 -48.4 38.3 508.2 595.4 272.8 58.7 1.0001 28000.0 340.7 -39.6 -48.4 38.3 508.2 595.4 272.8 58.7 1.0001 28000.0 355.9 -41.1 -49.8 38.3 498.5 594.4 275.1 60.5 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 469.8 592.7 277.1 61.9 1.0001 29500.0 316.6 -42.2 -55.5 21.4** 469.8 592.1 277.1 61.9 1.0001 2950.0 31.6 -42.2 -55.5 21.4** 469.8 592.1 277.3 61.0 1.0001 3100.0	S	25500	372.		-45.6	38.9		599.	263.1	æ	.00012
26500.0 356.2 -38.1 -47.0 38.6 527.9 597.2 265.8 52.8 1.0001 27000.0 348.3 -38.5 518.0 596.3 269.2 55.5 1.0001 27000.0 340.7 -39.6 -48.4 38.3 508.2 595.4 272.8 58.7 1.0001 28000.0 333.2 -40.4 -49.1 38.2 498.5 594.4 272.1 60.5 1.0001 29000.0 325.9 -41.7 -49.8 38.1 489.1 593.5 277.1 61.9 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 469.8 592.7 277.1 61.9 1.0001 29500.0 318.7 -42.6 -62.9 8.6*** 460.2 591.5 277.9 61.9 1.0001 3000.0 297.8 -44.7 58.9 1.0001 31.000 274.3 58.6 1.0001 3200.0 278.7 -46.1 46.7	I	26000	364.	37.	-46.3	38.7		598.	264.4	0	.00012
27000.0 348.3 -38.9 -47.7 38.5 518.0 596.3 269.2 55.5 1.0001 27500.0 340.7 -39.6 -48.4 38.3 508.2 595.4 272.8 58.7 1.0001 28000.0 353.2 -40.4 -49.1 38.2 498.5 594.4 275.1 60.5 1.0001 28500.0 325.9 -41.1 -49.8 38.1 489.1 592.7 277.1 61.9 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 479.7 592.7 277.1 61.9 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 469.8 592.1 277.9 61.9 1.0001 29500.0 311.5 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1.0001 31000.0 291.0 -44.7 8.6** 460.2 591.5 274.1 58.9 1.0001 31000.0 284.5	-	26500	356.	38.	0.74-	38.6				N	.0001;
27500.0 340.7 -39.6 -48.4 38.3 508.2 595.4 272.8 58.7 1.0001 28000.0 333.2 -40.4 -49.1 38.2 498.5 594.4 275.1 60.5 1.0001 28000.0 325.9 -41.1 -49.8 38.1 489.1 592.7 277.1 61.9 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 479.7 592.7 278.4 62.8 1.0001 29000.0 316.7 -42.2 -55.5 21.4** 469.8 592.1 277.9 61.9 1.0001 30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1.0001 31000.0 297.8 -42.6 -62.9 8.6** 451.4 581.6 577.3 61.0 1.0001 31500.0 284.5 -46.1 451.4 587.1 274.1 58.6 1.0001 32000.0 271.7 -46.1	4	27000	348	38	-47.7	38.5				ഗ	.0001
28000.0 333.2 -40.4 -49.1 38.2 498.5 594.4 275.1 60.5 1.0001 28500.0 325.9 -41.1 -49.8 38.1 489.1 593.5 277.1 61.9 1.0001 29000.0 318.7 -41.7 -51.3 34.2** 479.7 592.7 278.4 62.8 1.0001 29000.0 311.5 -42.6 -55.5 21.4** 469.8 592.1 277.9 61.9 1.0001 30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1.0001 30500.0 297.8 -44.7 8.6** 460.2 591.5 277.3 61.0 1.0001 31500.0 284.5 -46.1 443.8 588.8 274.1 58.6 1.0000 32000.0 278.0 -46.1 427.2 586.6 1.0000 32500.0 265.5 -46.9 40.0 40.0 277.4 58.6 1.0000	V	27500	340.	-39.6	+.8+-	38.3			272.8	æ	.0001
28500.0 325.9 -41.1 -49.8 38.1 489.1 593.5 277.1 61.9 1 29000.0 318.7 -41.7 -51.3 34.2** 479.7 592.7 278.4 62.8 1 29500.0 311.5 -42.2 -55.5 21.4** 469.8 592.1 277.9 61.9 1 30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1 30500.0 297.8 -44.7 8.6** 460.2 591.5 277.3 60.0 1 31500.0 291.0 -44.7 44.3 8.6** 443.8 577.3 60.0 1 32000.0 284.5 -46.1 44.7 58.8 274.1 58.9 1 32500.0 271.7 -46.1 427.2 586.6 1 33000.0 265.5 -46.9 408.8 585.9 277.4 56.6 1 33000.0 265.5 -46.9 408.8 585.9 277.4 56.6 1	A	28000	333.		•	38.2		294.4	275.1	0	.0001
29000.0 318.7 -41.7 -51.3 34.2** 479.7 592.7 278.4 62.8 1 29500.0 311.5 -42.2 -55.5 21.4** 469.8 592.1 277.9 61.9 1 30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1 30500.0 297.8 -44.7 8.6** 460.2 591.5 275.8 60.0 1 31500.0 284.5 -46.1 44.7 44.3 58.6 1 32000.0 278.0 -46.1 427.2 586.6 1 32500.0 271.7 -46.7 56.6 1 33000.0 265.5 -46.9 585.9 1 408.8 585.9 280.1 54.3 1		28500	325.	-41.1	•	38.1	489.1	593.	277-1	-	
29500.0 311.5 -42.2 -55.5 21.4** 469.8 592.1 277.9 61.9 1 30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1 30500.0 297.8 -44.7 46.1 451.4 590.6 275.8 60.0 1 31500.0 284.5 -46.1 44.7 44.3.8 58.8 1 274.1 58.9 1 32000.0 278.0 -46.1 427.2 586.6 275.3 58.5 1 32500.0 271.7 -46.7 56.6 1 54.5 1 33000.0 265.5 -46.9 585.9 277.4 56.6 1	A	29000	318.	•	:	34.2**	479.7	592.	278.4	N	
30000.0 304.6 -42.6 -62.9 8.6** 460.2 591.5 277.3 61.0 1.0001n 30500.0 297.8 -43.3 61.0 1.0001n 443.8 5A8.8 274.1 58.9 1.0001n 31500.0 284.5 -46.1 443.8 5A8.8 274.1 58.9 1.00000 32000.0 278.0 -46.4 54.1 54.3 58.5 1.00000 32500.0 271.7 -46.7 46.7 47.9 5A6.5 277.4 56.6 1.00000 33000.0 265.5 -46.9 1.00000	E	29500	311.		2	•		592.1	277.9	-	
30500.0 297.8 -43.3 60.0 1.0 31000.0 291.0 -44.7 44.7 31500.0 284.5 -46.1 45.4 587.1 274.3 58.6 1.0 32500.0 278.0 -46.4 54.7 46.7 417.9 586.3 277.4 56.6 1.0 33000.0 265.5 -46.9 54.9 54.3 1.0	31	30000	304.	-45.6	3	•	.09	591.5	277.3	61.0	.00010
31000.0 291.0 -44.7 58.9 1. 31500.0 284.5 -46.1 274.3 58.6 1. 32000.0 278.0 -46.4 427.2 586.6 275.3 58.5 1. 32500.0 271.7 -46.7 417.9 586.3 277.4 56.6 1. 33000.0 265.5 -46.9 408.8 585.9 280.1 54.3 1.	E	30500	297.	-43.3			51.	9.06%	275.8	0.09	
31500.0 284.5 -46.1 274.3 58.6 1.32000.0 278.0 -46.4 5.00 271.7 -46.7 46.7 417.9 5.00 5.00 271.7 -46.7 56.6 1.33000.0 265.5 -46.9 5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.		21000	291.	1.44-			'n	588.8		58.9	•
32000.0 278.0 -46.4 427.2 586.6 275.3 58.5 1.00000 32500.0 271.7 -46.7 46.9 417.9 586.3 277.4 56.6 1.00000 33000.0 265.5 -46.9 408.8 585.9 280.1 54.3 1.00000	C	31500	284.	-46.1			.9	587.1		58.6	
32500.0 271.7 -46.7 1.00009 33000.0 265.5 -46.9 46.9 408.8 545.9 280.1 54.3 1.00009	0	32000	278.	1.91-			27.	•		58.5	.00000
33000.0 265.5 -46.9 1.00009	P	32500	271.				17.		277.4	9.99	.00000
	Y	33000.	265.5				08.		280.1	54.3	.0000

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

FEET MSL	IRS MST
3989.00	1450 HRS MST
STATION ALTITUDE 3989.00 FEET MSL	24 FEB. 78 ASCENSION NO. 133
STATION	24 FEB. 78 ASCENSION

GEODETIC COORDINATES 32.40043 LAT NEG 106.37033 LON NEG	INDEX OF REFRACTION
6E0DET 32.	DIRECTION SPEED DEGREES(FN) KNOTS
	P DIRECTION DEGREES
DATA 133 NDS (CONT)	SPEED O
UPPER AIR DATA 0550020133 WHITE SANDS	REL.HUM. DENSITY SPFED OF PERCENT GM/CUBIC SOUND METER KNOTS
	REL . HUM. PERCENT
ET MSL MST	PERATURE DEWPOINT CENTIGRADE
89.00 FEE 1450 HRS	TEMPE AIR DEGREES C
ATION ALTITUDE 3989.00 FEET FEB. 78 1450 HRS M CENSION NO. 133	OMETRIC PRESSURE TEMF TITUDE L FEET MILLIBARS DEGREES
FEB. 78	OMETRIC TITUDE L FEET

INDEX OF REFRACTION	1.0000A9	A0000	• •	1.000078	70000	1.000072	•		• •	·00000	·00006	1.000061			1.000056	•	1.000054	•	1.000051	•	1.000049	₹00000	
DATA SPEED N) KNOTS	51.7	46.7	43.5	42.5	43.3	45.5	45.1	6.44	53.1	55.6	58.2	57.7	57.8	58.6	59.3	59.7	60.3	61.5	62.8	63.5	÷	63.4	61.9
WIND DA DIRECTION DEGREES(FN)	281.7	286.1	288.9	288.1	279.7	272.8	272.8	272.7	270.3	270.3	270.3	270.3	269.0	266.7	564.6	263.1	262.2	564.0	265.8	267.8	569.6	•	269.8
SPEED OF SOUND KNOTS	585.6			582.7 882.2		581.7	•	581.2		580.1	579.7	579.3	878.5		577.7			575.9		573.4	572.1		569.6
DENSITY GM/CUBIC METER	399.9			343.9		•		N 0	m		•	274.6	3	256.9	-	245.7	•		:		221.7		213.1
REL.HUM. PERCENT																							
TEMPERATURE AIR DEWPOINT EGREES CENTIGRADE	-47.2 -47.4	2000		140.8				-50.6				-52.1		•	-53.3		-53.9		•		-57.5	•	-59.4
PRESSURE MILLIBARS D	253.5	45	31.	20.	15	05.	0	96	87.	85.	78	. 6	99	62.	58.	54.	51.	47.	##	40.		34.	30.
g A																							

DATA DATA GEODETIC COORDINATES 32.40043 LAT nEG CONT) SPFED OF WIND DATA INDEX SOUND DIRECTION SPEED OF KNOTS DEGREES(TM) KNOTS REFRACTION	3 269.0 60.1 1	267.7 58.2 1.00004	7 266.9 55.7 1.00004 7 266.5 52.5 1.00004	3 266.1 49.7 1.	266.1 47.7 1	5 266.0 46.0 1.	8 265.7 46.9 1.	5 265.5 47.8 1.	2 265.1 47.5 1	264.6 47.0 1	264.3 46.4 1	264.2 45.8 1	264.2 45.4 1.	264.4 45.3 1.	264.7 45.3 1.	264.5 43.4 1.	264.4 41.4 1	264.7 38.9 1	265.6 36.2 1	266.7	268.9	1 1103	271.7 24.3 1	271.7 24.3 1 274.6 19.6 1	271.7 24.3 1.0000 274.6 19.6 1.0000 278.8 14.9 1.0000	271.7 24.3 1.0000 274.6 19.6 1.0000 278.8 14.9 1.0000 284.1 12.4 1.0000	271.7 24.3 1.0000 274.6. 19.6 1.0000 278.8 14.9 1.0000 284.1 12.4 1.0000	271.7 24.3 1.0000 274.6 19.6 1.0000 278.8 14.9 1.0000 284.1 12.4 1.0000 285.1 17.4 1.0000	271.7 24.3 1.00 274.6 19.6 1.00 278.8 14.9 1.00 284.1 12.4 1.00 284.7 14.9 1.00
UPPER AIR DATA 0550020133 WHITE SANDS TABLE VIII.(CONT) DENSITY SPFE GM/CUBIC SOU METER KNO	6	8	8 9	0	10	6	1	0	0			1.0			2				3.1	0.0	7.0	0.4		_	- n	- n n	m 10 m	- n n n -	- m 10 m - 11
U MSL 4ST T TERATURE REL.HUM. DEWPOINT PERCENT											A																		
ARS ARSEES	4.09-	-61.3	-62.3	-63.3		-62.4		•	-61.9	-62.1	-62.4	-62.7					-64.3	9.49-	6.49-	-65.2	-65.5	-65.8		1.99-	1.99-	1.99-	1.99-	-66.4 -66.7 -67.0	66.7
TUDE 39 133 RESSURE	127.6	124.5	121.5	115.7	112.8	110.1	107.4	104.1	102.2	1.56	•			•	88.0	82.8	83.7	81.6	9.62	77.6	75.7								
STATION ALTI- 24 FEB. 78 ASCENSION NO GEOMETRIC PI ALTITUDE MSL FEET MI	0	0.00064	50000-0	50500.0	51000.0	51500.0	52000.0	52500.0	53000.0	53500.0	24000.0	24500.0	55000.0	55500 • 0	2600000	26500 • 0	57000.0	57500.0	58000.0	58500 • 0	2900000	59500.0	0.00009		0.00509	60500.0	60500.0 61000.0 61500.0	60500.0 61000.0 61500.0 62000.0	60500.0 61000.0 61500.0 62000.0
8500.0 127.6 -60.4 208.9 568.3 269.0 60.1 9500.0 128.5 -61.3 207.8 565.7 267.7 58.2 9500.0 128.6 -63.1 196.6 564.7 266.9 55.7 9500.0 115.7 -63.3 196.6 564.7 266.9 55.7 1000.0 115.7 -63.4 192.0 564.0 266.1 49.7 1000.0 115.1 -62.4 181.5 564.0 266.1 49.7 2000.0 107.4 -61.7 167.7 566.8 266.1 47.7 110.0 2000.0 107.4 -61.7 172.6 566.8 266.1 47.7 110.0 2000.0 107.4 -61.7 172.6 566.5 266.1 47.7 110.0 2000.0 90.2 -62.4 164.6 565.5 264.2 45.4 124.6 47.8 111.4 112.3 264.2 266.7 46.4 111.4	124.5 -61.3 204.8 567.0 267.7 58.2 1.00 118.6 -62.3 200.8 565.7 266.9 55.7 1.00 115.7 -63.3 196.6 564.3 266.1 49.7 1.00 112.8 -63.6 18.9 564.3 266.1 47.7 1.00 110.4 -61.7 18.9 564.0 266.1 47.7 1.00 104.7 -61.9 18.9 56.6 265.0 46.0 1.00 104.7 -61.9 18.9 56.6 265.0 47.6 1.00 104.7 -61.9 18.0 266.2 265.0 47.6 1.00 97.2 -62.1 172.6 566.5 265.1 47.6 1.00 97.2 -62.1 160.5 566.5 266.0 47.6 1.00 90.2 -62.4 160.7 565.1 264.2 47.6 1.00 90.2 -63.5 140.8 564.2 264.2 45.4 1.00 98.0 -63.6 140.8	121.5 -62.3 200.8 545.7 266.9 55.7 1.00 115.7 -63.1 192.6 564.7 266.5 52.5 1.00 115.8 -63.6 187.5 564.0 266.1 47.7 1.00 110.4 -61.5 187.5 564.0 266.0 46.9 1.00 104.7 -61.5 17.6 7.66.8 265.7 46.9 1.00 104.7 -61.7 172.6 566.2 265.7 47.8 1.00 102.2 -61.7 172.6 566.2 265.1 47.8 1.00 97.2 -62.1 164.6 565.2 264.5 47.8 1.00 97.2 -62.1 164.6 565.2 264.5 47.8 1.00 97.2 -62.4 166.2 265.1 47.8 1.00 97.2 -62.4 166.2 265.1 47.8 1.00 96.5 -63.6 166.2 266.2 264.2 45.4 1.00 98.0 -63.5 164.5 565.1 264.2	115.7 -63.3 112.8 -63.6 111.1 -62.4 110.1 -62.4 107.4 -61.7 107.4 -61.7 107.4 -61.7 107.4 -61.7 107.4 -61.7 107.6 -62.1 107.7 -62.1 107.6 -62.7 97.7 -62.1 108.8 -62.7 97.8 -62.7 97.9 -62.1 108.9 -62.7 90.2 -63.9 90.2 -63.0 90.2 -63.0 90.2 -63.0 90.2 -63.0 90.2 -63.0 90.2 -63.0 119.8 564.7 110.8 564.7 110.8 1142.8 110.8 1142.8 110.8 1142.8 110.8 1142.8 110.8 1142.8 110.8 1142.8 110.8 1142.8 110.8	112.8 -63.6 187.5 564.0 266.1 47.7 1.00 110.1 -62.4 181.9 565.6 265.7 46.9 1.00 104.7 -61.5 172.7 566.2 265.7 46.9 1.00 102.2 -61.9 172.7 566.2 265.7 47.8 1.00 97.2 -62.1 164.6 56.2 264.6 47.5 1.00 97.2 -63.0 164.6 56.1 264.6 47.0 1.00 90.2 -63.0 164.6 56.1 264.2 45.4 1.00 90.2 -63.0 142.8 564.7 264.2 45.4 1.00 90.2 -63.0 142.8 564.7 264.2 45.4 1.00 90.2 -63.0 142.8 563.1 264.4 45.4 1.00 90.2 -63.0 142.8 563.1 264.4 45.4 1.00 90.2 -63.0 142.8 563.1 264.4 45.4 1.00 90.2 -64.0 136.0	110.1 -62.4 181.9 565.6 266.0 46.9 1.000 107.4 -61.5 172.6 265.5 47.8 1.000 102.2 -61.9 160.7 566.8 265.5 47.8 1.000 99.7 -62.1 160.7 565.9 264.6 47.0 1.000 94.8 -62.4 160.7 565.1 264.2 47.0 1.000 94.8 -62.7 160.7 565.1 264.2 45.4 1.000 96.2 -63.3 160.7 565.1 264.2 45.4 1.000 90.2 -63.5 146.4 17.0 1.000	107.4 -61.5 107.4 -61.5 104.7 -61.7 104.7 -61.7 104.7 -61.9 104.6 -62.1 99.7 -62.1 97.2 -62.4 97.2 -62.4 94.8 -62.7 92.5 -63.0 90.6 -63.3 90.7 -63.0 90.8 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -63.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9 90.9 -64.9	104.7 -61.7 102.2 -61.9 102.2 -61.9 99.7 -62.1 97.2 -62.1 97.2 -62.1 94.8 -62.7 94.8 -62.7 94.9 -62.7 92.5 -63.0 90.2 -63.0 169.5 264.2 169.6 264.2 169.7 565.1 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.8 264.2 169.9 264.2 169.9 264.2 169.9 264.2 169.9	102.2 -61.9 99.7 -62.1 99.7 -62.4 99.7 -62.4 94.8 -62.4 94.8 -62.7 94.9 -62.7 92.5 -62.7 90.2 -63.0 90.2 -63.0 90.2 -63.0 149.8 564.7 149.8 564.7 140.8 564.7 140.8 564.7 140.8 564.7 140.8 564.7 140.8 563.9 140.8 563.9 140.9 140.9 140.8 563.5 140.9 140.9 140.8 563.5 140.9 140.9 140.9 140.9 140.9 140.9 140.9 150.0 150.0 561.9 150.0 561.9 150.0 561.9 150.0 561.9 150.0 561.9 150.0 140.9 150.0	97.2 -62.1 97.2 -62.4 97.2 -62.4 97.2 -62.4 97.2 -62.7 97.2 -63.5 97.2 -63.5 97.2 -63.0 97.2 -63.5 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -63.0 97.2 -64.0 97.2 -64.0 97.3 -64.0 97.4 -65.0 97.5 -64.0 97.6 -64.0 97.6 -64.0 97.6 -64.0 97.6 -64.0 97.7 -65.5 97.0 -66.1 97.0 -66.1	97.2 -62.4 94.8 -62.7 94.8 -62.7 90.2 -63.3 90.2 -63.3 90.2 -63.3 90.2 -63.3 90.2 -63.5 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.2 90.2 -64.3 90.2 -64.3 90.3 -64.3 90.3 -64.3 90.3 -64.3 90.4 -1.00 90.4 -	94.8 -62.7 92.5 -63.0 90.2 -63.3 90.2 -63.5 90.2 -63.0 90.2 -64.0 90.2 -66.0 90.2 -	92.5 -63.0 92.5 -63.0 90.2 -63.3 90.2 -63.3 90.2 -63.3 90.2 -63.3 90.2 -63.3 90.2 -63.5 90.2 -63.5 90.2 -63.5 90.2 -63.6 90.2 -63.6 90.2 -63.6 90.2 -63.6 90.2 -63.6 90.2 -63.6 90.2 -64.7 90.2 -64.6 90.2 -64.6 90.2 -64.6 90.2 -64.6 90.2 -64.6 90.2 -64.6 90.2 -64.6 90.2 -64.7 90.2 -66.1	90.2 -63.3 90.2 -63.5 88.0 -63.6 85.8 -63.9 85.8 -64.3 85.1 -64.5 91.6 -64.6 91.6 -64.9 75.6 -64.9 75.7 -65.2 75.7 -65.5 75.0 -66.1 76.0 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.6 -66.1 77.7 -65.5 77.8 -65.8 77.9 -66.1 77.9 -70.2 77.9 -66.1 77.9 -70.2 77.9 -	88.0 -63.6 88.0 -63.6 88.0 -63.6 85.8 -63.9 85.8 -63.9 85.8 -63.9 85.8 -63.9 85.0 -64.5 81.5 -64.6 81.5 -64.6 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -64.9 81.5 -65.1 81.5 -65.1 81.5 -66.1	85.8 -63.9 85.8 -64.5 83.7 -64.3 81.5 -64.6 81.6 -64.6 81.6 -64.9 82.7 -64.9 83.7 -64.9 83.7 -64.9 83.7 -64.9 83.1 1.00 85.2 1.00 85.2 1.00 85.2 1.00 85.3 266.7 33.1 1.00 85.1 266.7 33.1 1.00 86.5 -66.1 86.5 -66.1 86.5 -66.7 86.7 -67.0 85.1 -67.3 85.2 1.00 85.1 -67.3 85.3 284.1 1.20 85.1 1.00 85.1 -67.3 85.3 284.1 1.00 85.1 -67.3 1.00	83.7 -64.3 81.5 -64.6 81.6 -64.6 79.6 -64.9 77.6 -65.2 77.6 -65.5 75.7 -65.5 75.7 -65.8 72.0 -66.1 70.2 -66.4 68.5 -66.7 68.5 -66.7 68.6 -66.7 68.6 -66.7 68.6 -66.7 68.6 -66.7 68.7 -67.0 68.7 -	81.5 -64.6 79.6 -64.9 77.6 -65.2 75.7 -65.2 75.6 -65.2 75.7 -65.5 75.7 -65.6 75.7 -65.6 75.8 -65.8 75.9 -65.8 72.0 -66.1 70.2 -66.1 70.2 -66.4 118.3 560.6 274.6 19.6 119.6 1.00 68.5 -66.7 115.5 559.8 284.1 12.4 110.1 558.9 284.1 17.4 100.2 284.1 100.2 284.1 110.1 558.9 284.1 17.4 110.1 558.9	79.6 -64.9 77.6 -65.2 77.6 -65.2 130.0 561.9 266.7 33.1 1.00 75.7 -65.8 73.8 -65.8 72.0 -66.1 70.2 -66.4 70.2 -66.4 118.3 560.2 278.8 14.9 1.00 66.7 -67.0 65.1 -67.3 110.1 558.9 284.1 17.4 1.00	77.6 -65.2 75.7 -65.5 75.7 -65.6 73.8 -65.8 72.0 -66.1 70.2 -66.4 68.5 -66.7 66.7 -67.0 65.1 -67.3 110.1 558.9 110.0 110.1 558.9 110.1	75.7 -65.5 73.8 -65.8 72.0 -66.1 70.2 -66.4 68.5 -66.7 66.7 -67.0 65.1 -67.3 110.1 558.9 75.0 -66.4 110.1 558.9 110.0 110.1 558.9 110.0	73.8 -65.8 72.0 -66.1 70.2 -66.4 70.2 -66.4 68.5 -66.7 66.7 -67.0 65.1 -67.3 65.1 -67.3 63.4 -67.7 72.0 24.3 1.00 118.3 560.2 274.6 19.6 118.3 560.2 274.6 19.6 110.1 569.8 284.1 12.4 1.00 110.1 558.9 284.1 17.4 1.00	72.0 -66.1 70.2 -66.4 68.5 -66.7 66.7 -67.0 65.1 -67.3 65.1 -67.3 63.4 -67.7	70.2 -66.4 14.9 1.000 68.5 -66.7 12.4 115.5 559.8 284.1 12.4 1.000 66.7 -67.0 112.8 559.3 284.7 14.9 1.000 65.1 -67.3 110.1 558.9 285.1 17.4 1.000 63.4 -67.7 558.5 284.1 22.6 1.000	68.5 -66.7	66.7 -67.0 112.8 559.3 284.7 14.9 1.00 65.1 -67.3 110.1 558.9 285.1 17.4 1.00 63.4 -67.7 10.0 107.5 558.5 284.1 22.6 1.00	65.1 -67.3 110.1 558.9 285.1 17.4 1.00 63.4 -67.7 107.5 558.5 284.1 22.6 1.00	63.4 -67.7		

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UPPER AIR DATA 0550020133 WHITE SANDS TABLE VIII. (CONT)

GEODETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG

INDEX OF REFRACTION	-00000-	1.000022	1.000022	1.000021	1.000021	1.000020	1.000019	1.000019	1.000018	1.000018	1.000017	1.000017	1.000016	1.000016	1.000016	1.000015	1.000015	1.000014	1.000014	1.000014	1.000013	1.000013	1.000013	1.000012	.00001	.0000	1.000011	0		_
DATA 1 SPEED 1) KNOTS	32.1	35.2	32.3		24.8	21.2	17.9	14.7	15.6	10.6		10.2	10.9	14.1	18.0	21.0	22.0	23.0	22.5	21.3	20.1	19.5	6	18.9	18.4	17.8	17.2	16.6	16.3	16.3
WIND DA DIRECTION DEGREES(FN)	283.2	283.7	284.3	284.9		286.5	287.4	288.6	289.2	289.8	288.8	285.2	282.0	277.8	275.2	273.7	272.9	272.3	272.0	271.9	271.8	271.5	271.1	270.7	270.6	270.6		276.4	284.0	291.7
SPEED OF SOUND KNOTS	557.6	557.9	558.2	558.5	558.8	559.2	5.655	559.8	561.2	563.3	565.4	566.2	566.1	566.0	565.9	565.8	565.7	565.6	566.1	566.7	567.3	567.9	568.5	569.1	569.6	570.2	570.8	571.4	572.0	572.3
	102.5	99.8	97.2	7.46	5	89.8	87.4	85.1	85.6		77.4	75.3	73.5	71.7	70.0	68.3	9.99	65.0	63.3	9.19	0.09		26.9		ţ.	55.5	-		•	47.3
DENSITY GM/CUBIC METER																														
REL. HUM. PERCENT			•	В	E	S	1		1/4	1	A\	11		B	1	Ĩ.		C	0	b.	Y									
MPERATURE REL.HUM. DEWPOINT PERCENT S CENTIGRADE	n:		8	9.	.	.1	6.		9.	.1	2	6.	0	-1	2	2		+	0.	.5	·				•	•	•		9.	
MPERATURE REL.HUM. DEWPOINT PERCENT S CENTIGRADE			8	9.	.	.1	6		9.	.1	2	6	0	-1	2	2		+	0.	.5	-			6	6	8	8	8	-57.6	-
RATURE REL.HUM. DEWPOINT PERCENT ENTIGRADE	.3 -68.	.8 -68.	.3 -67.8	9-29- 6.	4.79-	.1 -67.1	6.99- 8.	.5 -66.7	.2 -65.6	.0 -64.1	.8 -62.5	6-19- 9.	.5 -62.0	.4 -62.1	-62.2	-62.2	.3 -62.3	.3 -62.4	-62.0	-4 -61.5	.5 -61.1	2.09- 9.	.09-	.69 - 69.	.1 -59.	.3 -58.	.5 -58.	.8 -58.	.0 -57.	.3 -57.

T MSL	
1450 HRS MST	•
STATION ALTITUDE 3	CT ON N
STATION 24 FEB.	ASC TO STORY

GEOMETRIC

ALTITUDE MSL FEET

TITUDE 398	TITUDE 3989.00 FEET MSL 1450 HRS MST NO. 133	F	0550020133 WHITE SANDS TABLE VIII.(CONT)	(33 4DS (CONT)	950
PRESSURE	TEMPERATURE	REL . HUM.	REL.HUM. DENSITY SPEED OF	SPEED OF	WIND DATA
MILLIBARS	MILLIBARS DEGREES CENTIGRADE METER KNOTS DEGREES(IN) KN	PERCEN	METER METER	KNOTS	DEGREES (TN) KN

UPPER AIR DATA

32.40043 LAT DEG 106.37033 LON DEG ODETIC COORDINATES

INDEX OF REFRACTION	1.000010	.0000	.00001	.00000	.00000	.00000	.00000	.00000	.00000	.0000	.0000	.0000	.00000	.00000	.0000	.00000	·00000	.00000	.0000	.0000	.0000	.0000	.00000	.0000	.0000u	.00000	.0000
SPEED KNOTS	15.6	3	8	-	•			•	•	6	3	8	•	2	6	6		6		2	3	-	6	æ			•
WIND DA DIRECTION DEGREES(TN):	294.4	97.	91.	80.	68.	92	65.	92	71.	73.	75.	73.	72.	71.	71.	71.	71.	70.	.69	68	67.	65.	. 49	62.			
SPEED OF SOUND KNOTS	572.6	5	73.	74.	74.	74.	75.	75.	75.	76.	76.	76.	77.	77.	77.	78.	78.	78.	78.	79.	79.	79.	80.	80.	80.	81.	81.
CUBIC	46.1	3	0		•	6	8		•	3	+	+	3	3	-			6	8		7	•	2	ů.	ŧ	t	3

BEST AVAILABLE COPY

-52.6 -52.3 -52.1 -51.8

-51.6

-51.4 -51.1 -50.9 -50.7

79500 80500 81500 81500 82500 82500 83500 84500 84500 84500 84500 84500 84500 84500 84500 84500 84500 84500 87500.0 88000.0 88500.0 89500.0 90500.0 90000

-56.8

1900000

ATA SPEED KNOTS	115 115 115 115 115 115 115 115 115 115
WIND DATA DIRECTION SI DEGREES(TN) KI	266.1 256.1 275.5 275.5 275.5 280.7 280.7 252.3 272.8 266.0 266.0 284.0 283.7 283.7 292.4 272.1
REL . HUM. PERCENT	30000000000000000000000000000000000000
TEMPERATURE R DEWPOINT EES CENTIGRADE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
A I DEGR	110 111 110 110 110 110 110 110 110 110
OPOTENTIA FEET	4847. 6525. 8280. 10121. 12059. 14108. 16286. 18615. 21139. 23889. 23889. 23889. 23889. 24341. 45251. 45251. 45251. 45251. 47361. 7760. 81553. 86242.
PRESSURE GEOPOTENTIAL MILLIBARS FEET	850.0 750.0 750.0 750.0 650.0 650.0 750.0 1175.0 1175.0 125.0 150.0 150.0 150.0 150.0 150.0 150.0

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS UGED IN THE INTERPOLATION.

ATION	ALTITUDE	4395.50 FEET MSL	
24 FEB. 7	8	1450 HRS MST	

DATA			
IGNIFICANT LEVEL	0550230002	SW 70	TARLE X.

GEODETIC COORDINATES 33.36888 LAT DEG 106.40406 LON DEG

113.00 13.00 13.00 13.00 13.00 13.00 13.00 13.00 13.00
11111111111111111111111111111111111111
1100 1100
4395.5 6447.2 10118.3 112961.1 12961.1 12961.1 18614.3 223663.6 223663.6 223663.6 223663.6 332388.4 332388.4 335540.0 336572.9 41827.6 41827.6 41827.9
8888 8050 8050 8050 8050 8050 8050 8050

ETIC COORDINATES 33.36888 LAT NEG 06.40406 LON NEG	INDEX OF REFRACTION	1.000242	•0005€	1.000241	•	.00022	.00022	.0002>	.00021	_					•	.0001	•	1.000193	1.000190	1.0001A5	1.000120	1.000177	1.000174	1.000171	.0001	1.000146	.00014		.00015	.00015
GEODETIC 33.3 106.4	SPEED . KNOTS	5.1	4.8	3.7		9.	8.	1.9	2.8	•	4.9	5.1	4.9	•	•	4.5	•	6.7	9.1	11.3	13.3	14.7	14.7	14.8	14.6			t	2	•
	WIND DATA DIRECTION S DEGREES(INF · K	170.0	0	171.7		•	S	332.3	ò	C)	S	313.9	312.4	•	308.8	306.9	305-1	305.4	305.6	•	305.3	305.6	-	309.3	310.8	312.1	÷	ò		302.0
ATA	SPEED OF SOUND KNOTS	666.3	665.6	662.7		658.6		655.0	653.1		6.649	9.249	445.7	643.9	642.1	640.3			424		632.		63	629.2	627.6	•	÷	652.9	621.3	419.7
UPPER AIR DAT/ 0550230002 SW 70 TABLE XI.	DENSITY GM/CUBIC METER	ന	1027.1	1017.7	4.000 4.080			6.056	938.6	956.6	914.7	903.0	891.5	879.6	867.7	856.0	844.5	833.2	821.9	909	795.1	782.4	769.9	757.7	746.2	734.9	723.8	712.9	702.2	691.7
- H	REL.HUM. PERCENT	13.0	13.9	17.0	17.0	17.1	17.9	8	19.5	50.4	21.2	22.0	22.8	54.9	27.3	29.8	32.3	34.7	36.2	56.6	17.0	16.6	16.3	•		19.7	:	•	ţ.	56.6
T MSL MST	PERATURE DEWPOINT CENTIGRADE	-10.0	9.6-	-9.1	101		-12.6	-13.4	-14.1	-15.0	-15.8		-17.5	-17.8	-18.1	-18.4	-18.8	-19.4	-20.5	-54.4	-59.9		•	-32.8			-33.2	-33.6		-34.4
4395.50 FEET 1450 HRS M	TEMPE AIR DEGREES C	19.0		15.9	- 1	2	10.8	9.5	1.6	•	•		1.4	2	-1.7	-3.3	8.4-	1.9-	-7.9	-8.6	7.6-	-10.4	-11.4	-12.4	•	-15.0	ė	-	8	-50.5
TITUDE	PRESSURE MILLIBARS	-	9.098		815.4			771.5		743.4		716.3			9.929	663.7	651.0	638.6	626.3	614.1	602.2	590.3	578.7	567.3	522.9	244.8	533.8	523.1	512.6	502.3
STATION AL 24 FEB. 78 ASCENSION	GEOMETRIC ALTITUDE MSL FEET	4395.5	4500.0	5000.0			7000-0	7500.0	80000	8500.0	0.0006	9500	0000	0200	1000	1500	2000	2500	13000.0	3500	4000	4200	5000	15500.0	9009	6500	1000	200	18000-0	8200.

ETIC COORDINATES 33.36888 LAT NEG 06.40406 LON NEG	INDEX OF REFRACTION	1.000154	1.000151		=	1.000144	1.000142	.0001	1.000138	1.000135	.0001	.00013	1.000129	.000	.0001	.000	1.000120	.000	.000	000.	0000	0000		1.000103	1.000101	.00	.00	1.000094	1.000092	.00000	.0000A
GEODETIC 33.36 106.40	SPEED KNOTS	15.8	16.0	16.3	17.0	17.9		-			21.0		20.9	21.1	22.6	24.0	24.6	25.2	25.1	24.7	25.2	26.5	27.8	29.0	30.3	31.4	32.2	32.9	33.8	34.6	-
	WIND DATA DIRECTION S DEGREES(TN): K	596.9	291.0	285.3	280.2	275.8	271.9	568.9	266.1	267.0	569.4	272.1	275.3	278.0	277.8	278.0	281.7	285.3	287.0	288.2	287.9	285.9	284.4	285.2	582.9	286.3	286.3	286.3	285.7	284.9	284.2
DATA 102 (CONT)	SPFED OF SOUND KNOTS	618.0	616.2	614.4	-	610.8	409.1	60709	6,05.5	603.8	602.2	4.00%			594.9	593.4	592.3	591.2	590.2	589.1	588.0	587.3	587.2	587.4	588.3	588.4	588.4	88.	88	587.2	86.
UPPER AIR DAT 0550230002 SW 70 TABLE XI. (CON	DENSITY S GM/CUBIC METER	-	0	0	650.5		0	-	5	602.4	592.6	3	÷	2	555.7	9	2	2	5	.9	•	•	ŝ	9.494	å	ċ	å	å	m	5	97.
U ÅT	REL . HUM. PERCENT		30.7	3	•	9	•	41.0	m	42.1	œ	9	36.0	2	2	4	8	22.1**	15.9**	**9.6	3.4**					•					
T MSL MST	PERATURE DEWPOINT CENTIGRADE	•	-35.5			-37.6	-38.3	-39.1	0.04-		143.4			-48.2	1.61-		-53.1		•	-63.6	•										
O FEE	TEMPE AIR DEGREES C	-21.6	5	;	-25.9	7		·	-	3	+	3	2	8		-		•	3	ŧ.	•	-42.9	0.94-	-45.8	2	2	ŝ		-45.2	•	•
ALTITUDE 4395.5 78 1450 ON NO. 2	PRESSURE MILLIBARS	491.9	481.7	:	-					•						-	•					•	•		•		•		270.4	•	•
STATION AL	GEOMETRIC ALTITUDE MSL FEET	90	950	.0000	20500.0	100	150	200	250	3000	3500.	.0004	45	50000	550	.0009	6500 •	7000	7500.	80000	8500.	0006	9500.	.0000	0200	10001	1500.	2000-	2500.	300	3500.

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS UGED IN THE INTERPOLATION.

T. REL.HUM. PERCENT	TEMPERATURE IR DEWPOINT REES CENTIGRADE
	0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 · 0 ·
	6
	-50.9
	-
	-
	-
	-
	- 530.4
	•
	-
	-
	-
	57.
	28
	6

STATION ALTITUDE 4395.50 FEET 24 FEB. 78 1450 HRS NASCENSION NO. 2	.TITUDE 43	95.50 FEI 1450 HRS	EET MSL S MST	- H	UPPER AIR DATA 0550230002 SW 70 TABLE XI. (CONT)	DATA 002 (CONT)		GEODETI 33. 106.	GEODETIC COORDINATES 33.36888 LAT NEG 106.40406 LON NEG
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR DEGREES C	ERATURE DEWPOINT CENTIGRADE	REL . HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION S DEGREES(TN) K	SPEED KNOTS	INDEX OF REFRACTION
0.00064	123.8	-59.8			202.1	1 569.1	271.1	55.5	1.000045
49500.0	120.8	-60.1			197.5		270.5	56.5	1.00004
2000000	117.9	-60.5			193.1		569.6	57.6	1.000043
20200.0		6.09-			188.7		269.1	57.4	1.000042
51000.0	112.2	-61.2			184.4	1 567.2	268.2	56.5	1.000041
51500.0		-61.0			179.8		267.3	56.2	1.000040
52000.0		8.09-			175.2		266.8	57.7	1.000019
52500.0		9.09-			170.6	8 567.9	266.2	59.5	1.000038
53000.0		+.09-			166.5		265.7	55.6	1.000037
53500 • 0		4.09-			162.5		265.2	50.2	1.000036
24000.0	8.96	6.09-			158.9				1.000035
24500.0	4.46	-61.4			155.3				1.000035
55000.0	92.1	-61.8			151.9				1.000034
55500 • 0	89.9	-62.3			148.5				1.000033

STATION ALTITUDE 4395.50 FEET MSL	1450 HRS MST
STATION ALTITUDE	24 FEB. 78 ASCENSION NO.

DAT AT		
	TA .	4 4 3 4 4 3 4 4 3 4 4 3 4 4 3 4 4 4 4 4
	٥	2171.2 321.9 312.0 305.0 305.0 305.0 311.6 274.4 284.1 268.0 268.0 268.0
	RFL . HUM. PERCENT	17. 20. 20. 30. 30. 30. 4.*
	TEMPERATURE R DEWPOINT EES CENTIGRADE	11111 11111 111111 111111 111111 111111
	TEMP AIR DEGREES	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
S A	OPOTENTIAL FEET	4849. 6525. 8280. 12019. 12052. 14095. 18624. 23881. 26881. 39028. 41870. 45117.
	PRESSURE GE MILLIBARS	850.0 750.0 750.0 750.0 750.0 750.0 750.0 1175.0
TUDE		the first feet from the design from the

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.